

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Ke-Wen DONG et al.

Serial No. 09/252,828

Filed: February 19, 1999



: Attn: Office of Initial
: Patent Examination
:
:
:
:
:
:

For: RECOMBINANT, BIOLOGICALLY ACTIVE HUMAN ZONA PELLUCIDA PROTEIN 3
(HZP3) TO TEST MALE FERTILITY

REQUEST FOR CORRECTED FILING RECEIPT

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

Attached is a copy of the Filing Receipt received from the U.S. Patent and Trademark Office in the above-referenced application. The title on the Filing Receipt contains typographical errors. Also attached is a copy of the first page of the Specification as filed listing the correct title. Please correct the title as indicated in red on the attached copy of the Filing Receipt. It is requested that a corrected filing receipt be issued.

The Commissioner is authorized to charge the appropriate fee to Deposit Account No. 08-0219.

Respectfully submitted,

WILMER CUTLER PICKERING HALE AND DORR LLP

A handwritten signature in black ink, appearing to be "H. Wixon", written over a horizontal line.

Henry N. Wixon
Registration No. 32,073

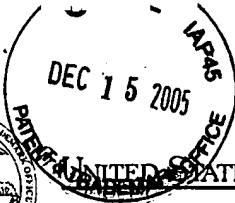
1455 Pennsylvania Avenue, NW
Washington, D.C. 20004

TEL: 202.942.8400

FAX: 202.942.8484

Date: 15 DECEMBER 2005

HNW/srg



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/252,828	02/19/1999	1641	1090	024754/0114	3	21	5

FOLEY & LARDNER
3000 K STREET N W
SUITE 500
WASHINGTON, DC 200078696

CONFIRMATION NO. 4940
CORRECTED FILING RECEIPT



OC00000008334595

Date Mailed: 06/21/2002

Receipt is acknowledged of a CPA in this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

KE-WEN DONG, CHESAPEAKE, VA;
SERGIO OEHNINGER, NORFOLK, VA;
WILLIAM E. GIBBONS, NORFOLK, VA;

Domestic Priority data as claimed by applicant

THIS APPLN CLAIMS BENEFIT OF 60/075,079 02/19/1998

Foreign Applications

If Required, Foreign Filing License Granted 03/11/1999

CPA filed on: 06/17/2002

Projected Publication Date: 10/03/2002

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

RECOMBINANT, BIOLOGICALLY ACTIVE HUMAN ~~ZONE~~ PELLUCIDA ~~PROTEIN~~ 3 (H3P3)

ZONE

PROTEIN

TO TEST MALE FERTILITY

Preliminary Class

435

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



Inventors: Ke-Wen Dong
Sergio Oehninger
William Gibbons

RECOMBINANT, BIOLOGICALLY ACTIVE HUMAN ZONA PELLUCIDA PROTEIN 3 (hZP3) TO TEST MALE FERTILITY

Field of the Invention

This invention relates to male infertility testing, and to uses of recombinant human zona pellucida protein in clinical research and practical applications.

Description of Related Art

Fertilization is the process whereby individual gametes from the female (egg) and male (sperm) unite to create a zygote whose genetic makeup is different from both parents. The sperm-egg interaction requires zona pellucida protein 3 (ZP3) both as a sperm-oocyte binding ligand and as an acrosome reaction inducer.

In male patients with infertility of unknown etiology, an abnormal sperm-zona pellucida interaction between sperm and egg is observed frequently. This abnormality is associated with reduced sperm fertility capacity and may account for a significant proportion of infertility cases. Male infertility is a significant problem today, and approximately 30-40% of infertility cases can be attributed to male reproductive dysfunction. Therefore, there is a fundamental need to gain a deeper understanding of human sperm-oocyte interaction at the zona pellucida level. Greater understanding of this problem will offer improved and more physio-pathologically directed therapy to these patients.

Infertility in many cases arises from a problem with binding of egg with sperm to form a zygote. The binding of sperm to the zona pellucida of the egg is a crucial recognition event in this process that leads to fertilization. Extensive investigation of murine fertility systems has resulted in the identification and isolation of zona pellucida protein 3 ("ZP3") as the primary receptor for sperm within the zona pellucida Bleil and Wassarman, *Dev. Biol.* 76: 185-202 (1980). ZP3 is a glycopolypeptide which plays a crucial role during fertilization. As part of its biological role, ZP3 binds to a spermatozoon